

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6 Laboratory

Environmental Services Branch 10625 Fallstone Road, Houston, TX 77099 Phone: (281)983-2100 Fax: (281)983-2248

Amended Final Analytical Report

Site NameDimock Residential Groundwater Site
Sample Collection Date(s)— 03/05/12 - 03/08/12
Contact Cynthia Caporale (3EA21)
Report Date04/04/12
Project # 12SF073
Work Order(s)1203005
1203007
1203012

Analyses included in this report:

ABN Glycols

Report Narrative

This report has been amended to correct the units in the case narrative from ug/L to mg/L.

The reporting limit for these compounds is 2 mg/L. The nominal detection limit is 0.5 mg/L. There were no compounds detected between the detection limit and the reporting limit.

On the day the samples were analyzed propylene glycol was left out of the Blank Spike (BS). Both ethylene and propylene glycol were spiked into the MS/MSD and the recoveries were acceptable. Because the MS/MSD can substitute for the BS in the method the samples were not reanalyzed. A blank and BS were reanalyzed additionally at a later date and results were acceptable. No targets were detected in the samples.

Concentrations reported in the QC have changed slightly since the draft report was issued due to a minor change in the calibration and an adjustment to the volume used for the matrix spikes determined during the final data review process.

Standard procedures for quality assurance and quality control were followed in the analysis and reporting of the sample results. The results apply only to the samples tested. This final report should only be reproduced in full.

Reporting limits are adjusted for sample size and matrix interference.

Report Approvals:

Richard McMillin

Region 6 Laboratory Manager

David Neleigh
Region 6 Laboratory/Branch Chief

Company of the state of the sta

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 6 Environmental Services Branch Laboratory

10625 Fallstone Road Houston, Texas 77099

Sample Receipt and Disposal

Site Name: Dimock Residential Groundwater	r Site Project Number: 128F073
Data Management Coordinator: Christy Warr Data Management Coordinator Signature	Ten 4/5/12— Date
Date Transmitted: 4/5/12	
Please have the U.S. EPA Project Manager/Or comments or questions.	fficer call the Data Management Coordinator at 3-2137 for any
Please sign and date this form below and return	rn it with any comments to:
Christy Warren Data Management Coordinator Region 6 Laboratory 6MD-HS	
Received by and Date	
Comments:	
The laboratory routinely disposes of samples hold these samples in custody longer than 90 c	90 days after all analyses have been completed. If you have a need to days, please sign below.
Signature	Date
Please provide a reason for holding:	



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

ANALYTICAL REPORT FOR SAMPLES

Station ID	Laboratory ID	Sample Type	Date Collected	Date Received
FB19	1203005-01	Liquid	3/5/12 9:36	03/07/12 09:50
HW56	1203005-02	Liquid	3/5/12 16:54	03/07/12 09:50
HW60	1203005-03	Liquid	3/5/12 12:25	03/07/12 09:50
FB20	1203007-01	Liquid	3/6/12 14:00	03/08/12 09:00
HW61	1203007-02	Liquid	3/6/12 15:42	03/08/12 09:00
HW61-P	1203007-03	Liquid	3/6/12 16:00	03/08/12 09:00
HW61z	1203007-04	Liquid	3/7/12 15:42	03/08/12 09:00
FB21	1203012-01	Liquid	3/8/12 13:38	03/09/12 09:30
HW50	1203012-02	Liquid	3/8/12 15:09	03/09/12 09:30

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532

Page 1 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203005-01 Station ID: FB19

Batch: B2C0702 Date Collected: 03/05/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	**	11	"
						1

kws

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532

Page 2 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203005-02 Station ID: HW56

Batch: B2C0702 Date Collected: 03/05/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	11	11	**

KWS

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 3 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203005-03 Station ID: HW60

Batch: B2C0702 Date Collected: 03/05/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	**		**

KWS

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 4 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203007-01 Station ID: FB20

Batch: B2C0702 Date Collected: 03/06/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	11		**

kws

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 5 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203007-02 Station ID: HW61

Batch: B2C0702 Date Collected: 03/06/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Volume: 1 ml Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	11	"	***

kws

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 6 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203007-03 Station ID: HW61-P

Batch: B2C0702 Date Collected: 03/06/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	11	II .	"

kws

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532

Page 7 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203007-04 Station ID: HW61z

Batch: B2C0702 Date Collected: 03/07/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	**		**

KWS

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 8 of 16

DIM0095494



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203012-01 Station ID: FB21

Batch: B2C0702 Date Collected: 03/08/12 Sample Type: Liquid Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	11	"	**

KWS

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 9 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS

Lab ID: 1203012-02 Station ID: HW50

Batch: B2C0702 Date Sample Type: Liquid Sa

Date Collected: 03/08/12 Sample Volume: 1 ml

Sample Qualifiers:

Targets

Analyte (CAS Number)	Result mg/L	Analyte Qualifiers	Reporting Limit	Dilution	Prepared	Analyzed
Propylene glycol (57-55-6)	U		2.0	1	03/09/12	03/09/12
Ethylene glycol (107-21-1)	U		2.0	**		11.

kws

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 10 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS - Quality Control

Batch: B2C0702 Sample Type: Liquid

Blank (B2C0702-BLK1)

Prepared: 3/9/2012 Analyzed: 3/9/2012

Targets

ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit	
Propylene glycol	U	2.0	
Ethylene glycol	U	2.0	

Blank (B2C0702-BLK2)

Prepared: 3/14/2012 Analyzed: 3/14/2012

Targets

ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit	
Propylene glycol	U	2.0	
Ethylene glycol	U	2.0	

LCS (B2C0702-BS1)

Prepared: 3/9/2012 Analyzed: 3/9/2012

Targets

ANALYTE		Analyte Reporting Qualifiers Limit	Spike Level	%REC %REC Limits	
Ethylene glycol	53.0	2.0	50.0	106 70-130	

LCS (B2C0702-BS2)

Prepared: 3/14/2012 Analyzed: 3/14/2012

Targets

ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit	Spike Level	%REC %REC Limits	
Propylene glycol	50.6	2.0	50.0	101 70-130	
Ethylene glycol	58.0	2.0	50.0	116 70-130	

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 11 of 16



Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Glycols by Direct Aqueous Injection Modified 8270 - GC/MS - Quality Control

Batch: B2C0702 Sample Type: Liquid

Matrix Spike (B2C0702-MS1)

Source: 1203005-02 Prepared: 3/9/2012 Analyzed: 3/9/2012

Targets

ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit	Spike Level	Source Result	%REC	%REC Limits	
Propylene glycol	55.7	2.0	66.7		83.6	70-130	_
Ethylene glycol	67.6	2.0	66.7		101	70-130	

Matrix Spike Dup (B2C0702-MSD1)

Source: 1203005-02 Prepared: 3/9/2012 Analyzed: 3/9/2012

Targets

ANALYTE	Result mg/L	Analyte Reporting Qualifiers Limit	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Propylene glycol	53.7	2.0	66.7		80.6	70-130	3.61	30
Ethylene glycol	67.5	2.0	66.7		101	70-130	0.08	30

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532 Page 12 of 16

Fax:(281)983-2248

Page 1 of 1

USEPA CLP Generic COC (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 3-030612-085615-0247

DateShipped: 3/6/2012 CarrierName: FedEx AirbillNo: 7981 3489 3053

Case #: CT5928

Lab: EPA R6 Laboratory Lab Contact: Christy Warren Lab Phone: 2819832137

Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
FB19	Aqueous/ Joel Munson	Grab	Ethylene Glycol, Ethylene Glycol	19052 (-NA- / 40mlGlassVial), 19053 (-NA- / 40mlGlassVial) (2)	FB19	03/05/2012 09:36	
HW56	Drinking Water/ Mike Ferrier	Grab -	Ethylene Glycol, Ethylene Glycol, Ethylene Glycol, Ethylene Glycol, Ethylene Glycol, Ethylene Glycol, Ethylene Glycol	19119 (-NA- / 40mlGlassVial), 19120 (-NA- / 40mlGlassVial), 19138 (-NA- / 40mlGlassVial), 19139 (-NA- / 40mlGlassVial), 19140 (-NA- / 40mlGlassVial), 19141 (-NA- / 40mlGlassVial) (6)	HW56	03/05/2012 16:54	
HW60 Drinking Water/ Mike Ferrier	Grab	Ethylene Glycol, Ethylene Glycol	19085 (-NA- / 40mlGiassVial), 19086 (-NA- / 40mlGlassVial) (2)	HW60	03/05/2012 12:25		
			>				

	Shipment for Case Complete? N
Sample(s) to be used for Lab QC: HW56	Samples Transferred From Chain of Custody #
	.i.
Analysis Key	

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
10	Dacovore	3/6/12	I saigh Harris	3/1/12	9:50						
				1.							

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248



Page 1 of 1

USEPA CLP Generic COC (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 3-030712-111413-0253

DateShipped: 3/7/2012 CarrierName: FedEx AirbillNo: 7981 4076 7688 Lab EPA R6 Laboratory Lab Contact: Christy Warren Lab Phone: 2819832137

Case #: CT5928

Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
Aqueous/ Joel Munson	Grab	Ethylene Glycol, Ethylene Glycol	19242 (-NA- / 40mlGlassVial), 19243 (-NA- / 40mlGlassVial) (2)	FB20	03/06/2012 14:00	
Drinking Water/ Mike Ferrier	Grab	Ethylene Glycol, Ethylene Glycol	19172 (-NA- / 40mlGlassVial), 19173 (-NA- / 40mlGlassVial) (2)	HW61	03/06/2012 15:42	
Drinking Water/ Brian Burris	Grab	Ethylene Glycol, Ethylene Glycol	19216 (-NA- / 40mlGlassVial), 19217 (-NA- / 40mlGlassVial) (2)	HW61-P	03/06/2012 16:00	
Drinking Water/ Mike Ferrier	Grab	Ethylene Glycol, Ethylene Glycol	19198 (-NA- / 40mlGlassVial), 19199 (-NA- / 40mlGlassVial) (2)	HW61	03/06/2012 15:42	
	- 1					
	Aqueous/ Joel Munson Drinking Water/ Mike Ferrier Drinking Water/ Brian Burris Drinking Water/	Aqueous/ Joel Grab Munson Drinking Water/ Mike Ferrier Drinking Water/ Brian Burris Drinking Water/ Grab	Method	Method Aqueous/ Joel Grab Ethylene Glycol, Ethylene Glycol 19242 (-NA-/ 40miGlassVial), 19243 (-NA-/ 40miGlassVial), 19243 (-NA-/ 40miGlassVial), 19243 (-NA-/ 40miGlassVial), 19213 (-NA-/ 40miGlassVial), 19173 (-NA-/ 40miGlassVial), 19173 (-NA-/ 40miGlassVial), 19173 (-NA-/ 40miGlassVial), 19216 (-NA-/ 40miGlassVial), 19217 (-NA-/ 40miGlassVial), 19217 (-NA-/ 40miGlassVial), 19217 (-NA-/ 40miGlassVial), 19218 (-NA-/ 40miGlassVial), 19218 (-NA-/ 40miGlassVial), 19219	Method Location	Method Location

	Shipment for Case Complete? N
special Instructions:	Samples Transferred From Chain of Custody #
nalysis Key	

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
8 /	Oallly	3/7/12	Isaph Harris	38/2	9:00						
	0	19.		1.7	8						

Sample Temp: 4°C

Page 1 of 1

USEPA CLP Generic COC (LAB COPY)

CHAIN OF CUSTODY RECORD

No: 3-030812-165546-0262

DateShipped: 3/8/2012 CarrierName: FedEx AirbillNo: 7981 4835 1266

Lab: EPA R6 Laboratory Lab Contact: Christy Warren Lab Phone: 2819832137

Case #: CT5928

Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	For Lab Use Only
FB21	Aqueous/ Joel Munson	Grab	Ethylene Glycol, Ethylene Glycol	18960 (-NA- / 40mlGlassVial), 18961 (-NA- / 40mlGlassVial) (2)	FB21	03/08/2012 13:38	
HW50	Drinking Water/ Mike Ferrier	Grab	Ethylene Glycol, Ethylene Glycol	18999 (-NA- / 40mlGlassVial), 19000 (-NA- / 40mlGlassVial) (2)	HW50	03/08/2012 15:09	
		- 1					
		1,					

	Shipment for Case Complete? N
Special Instructions:	Samples Transferred From Chain of Custody #
inalysis Key	

tems/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
4	Macorore	3/8/12	Tsajah Harris	3/9/12	9:30						
ke i	4	æ		1.5	2						

HITED STATES

Environmental Protection Agency

Region 6 Laboratory

10625 Fallstone Road, Houston, TX 77099 Phone:(281)983-2100 Fax:(281)983-2248

Notes and Definitions

A This sample was extracted at a single acid pH.

HTS Sample was prepared and/or analyzed past recommended holding time. Concentrations should be

considered minimum values.

AES Atomic Emission Spectrometer

CVAA Cold Vapor Atomic Absorption

ECD Electron Capture Detector

GC Gas Chromatograph

GFAA Graphite Furnace Atomic Absorption

ICP Inductively Coupled Plasma

MS Mass Spectrometer

NA Not Applicable

NPD Nitrogen Phosphorous Detector

NR Not Reported

TCLP Toxicity Characteristic Leaching Procedure

U Undetected

Out of QC limits

Initial pressure in air analyses is the pressure at which the canister was received in psia (pounds *per* square inch absolute pressure).

The pH reported for Volatile liquid samples was tested using a 0-14 pH indicator strip for the purpose of verifying chemical preservation.

The statistical software used for the reporting of toxicity data is ToxCalc 5.0.32, Environmental Toxicity Data Analysis System 1994-2007 Tidepool Scientific Software.

Report Name: 1203005,1203007,1203012 FINAL 04 04 12 1532

Page 16 of 16